ABSTRACT

The invention relates to a hot rolled sheet which is made from austenitic iron/carbon/manganese steel and which has a resistance of greater than 900 MPa, whereby: resistance (MPa) x elongation at rupture (%) is greater than 45000. The chemical composition of the inventive sheet comprises the following concentrations expressed as weight: 0.5 % = C = 0.7 %, 17 % = Mn = 24 %, Si = 3 %, Al = 0.05 %, S = 0.03 %, P = 0.08 %, N = 0.1 % and, optionally, one or more elements such as Cr = 1 %, Mo = 0.4 %, Ni = 1 %, Ti = 0.5 %, Nb = 0.5 %, V = 0.5 %, Cu = 5 %, Cu = 5 %, the rest of the composition comprising iron and impurities resulting from production. According to the invention, the recrystallised fraction of the steel is greater than 75 % and the surface fraction of precipitated carbides of the steel is less than 1.5 %, the average grain size of the steel being less than 18 micrometers.